

IN THE CLAIMS

Claims 1-9 (Canceled).

Claim 10 (Currently Amended): A catheter device, comprising:

a flexible hollow tube body formed by a plurality of austenitic stainless steel wires tightly stranded cylindrically around an elongate core into a wire-rope configuration, one end of said austenitic stainless steel wires being secured to a rotational chuck of a twisting device, the other end of said austenitic stainless steel wires being secured to a slidable chuck from which a weight is depended, and concurrently twisted under a tensile stress caused from a weight, and electric currents drawn to said austenitic stainless steel wires to be heated by an electric resistance of said austenitic stainless steel wires and thereafter drawn from said elongate core to form a flexible tube body;

a knife-edge circle front welded to a leading end of said flexible hollow tube body as a blade edge which diametrically decreases progressively as approaching forward, said blade edge of said knife-edge circle front being outwardly arcuated in cross section and being advanced to be rotated as a drill from a guide wire so as to perforate a hard clot area of an obstructed area, and said hard clot area being pulverized by said knife-edge circle front to produce a hard clot powder; and

helical grooves at an inner surface of said flexible tube body, said helical grooves being formed by said stranded austenitic stainless steel wires helically and tightly stranded abutting each other to carry away said hard clot powder in a rearward direction therealong.

Claim 11 (Currently Amended): [[A]] The catheter device as recited in claim 10, wherein said flexible hollow tube body is divided in a lengthwise direction into a plurality of zones;

a clamp device has a pair of clamp plates which clamp a boundary portion between said zones, so that said flexible hollow tube body is twisted in different turns depending on said zones, so that said flexible hollow tube body has a front end portion highly rigid, and a bending rigidity of said flexible hollow tube body decreases and increases progressively along said lengthwise direction to form a rigid-flexible gradient structure flexible in the front end portion and rigid in the rear end portion.

Claim 12 (Canceled).

Claim 13 (Currently Amended): A catheter device, comprising:
a flexible hollow tube body formed by a plurality of austenitic stainless steel wires cylindrically stranded around an elongate core into a wire-rope configuration, one end of said austenitic stainless steel wires being secured to a rotational chuck of a twisting device, the other end of said austenitic stainless steel wires being secured to a slidable chuck from which a weight is depended, and concurrently twisted under a tensile stress caused from a weight, and electric currents drawn to said austenitic stainless steel wires to be heated by an electric resistance of said austenitic stainless steel wires and thereafter drawn from said elongate core to form a flexible tube body;
a knife-edge circle front welded to a leading end of said flexible hollow tube body as a blade edge which diametrically decreases progressively as approaching forward, said blade edge of said knife-edge circle front being outwardly arcuated in cross section and being advanced to

be rotated as a drill from a guide wire so as to perforate a hard clot area of an obstructed area, and said hard clot area being pulverized by said knife-edge circle front to produce a hard clot powder;

helical grooves provided inside said flexible tube body to carry away said hard clot powder in a rearward direction therealong; and

helical grooves at an inner surface of said flexible tube body, said helical grooves being formed by said stranded austenitic stainless steel wires helically and tightly stranded adjacent to each other to carry away said hard clot powder in a rearward direction therealong.

Claim 14 (Currently Amended): [[A]] The catheter device as recited in claim 10, wherein said flexible hollow tube body is divided in the lengthwise direction into a plurality of zones;

a clamp device has a pair of clamp plates which clamp a boundary portion between said zones, so that said flexible hollow tube body is twisted in different turns depending on said zones, so that said flexible hollow tube body has a front end portion highly rigid, and a bending rigidity of said flexible hollow tube body decreases and increases progressively along said lengthwise direction to form a rigid-flexible gradient structure flexible in the front end portion and rigid in the rear end portion.